



FY 2018-19 Standard Plans Update Training

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Index 102-100 (previously Index 415) “Temporary Barrier”

- This index is now generic to multiple types of temporary barrier systems.

~~1. Temporary concrete barrier systems on roadways may be any of the following:~~

- ~~a. The FDOT Type K Temporary Concrete Barrier system (Design Standard Index 414), F-Shape Units. For temporary concrete barrier systems on bridges see Design Standard Index No. 414.~~
- ~~b. Proprietary temporary concrete barrier systems meeting NCHRP Report 350 Test Level 3 criteria which are included on the Approved Products List.~~
- ~~c. Water Filled Barrier (Free-standing)~~

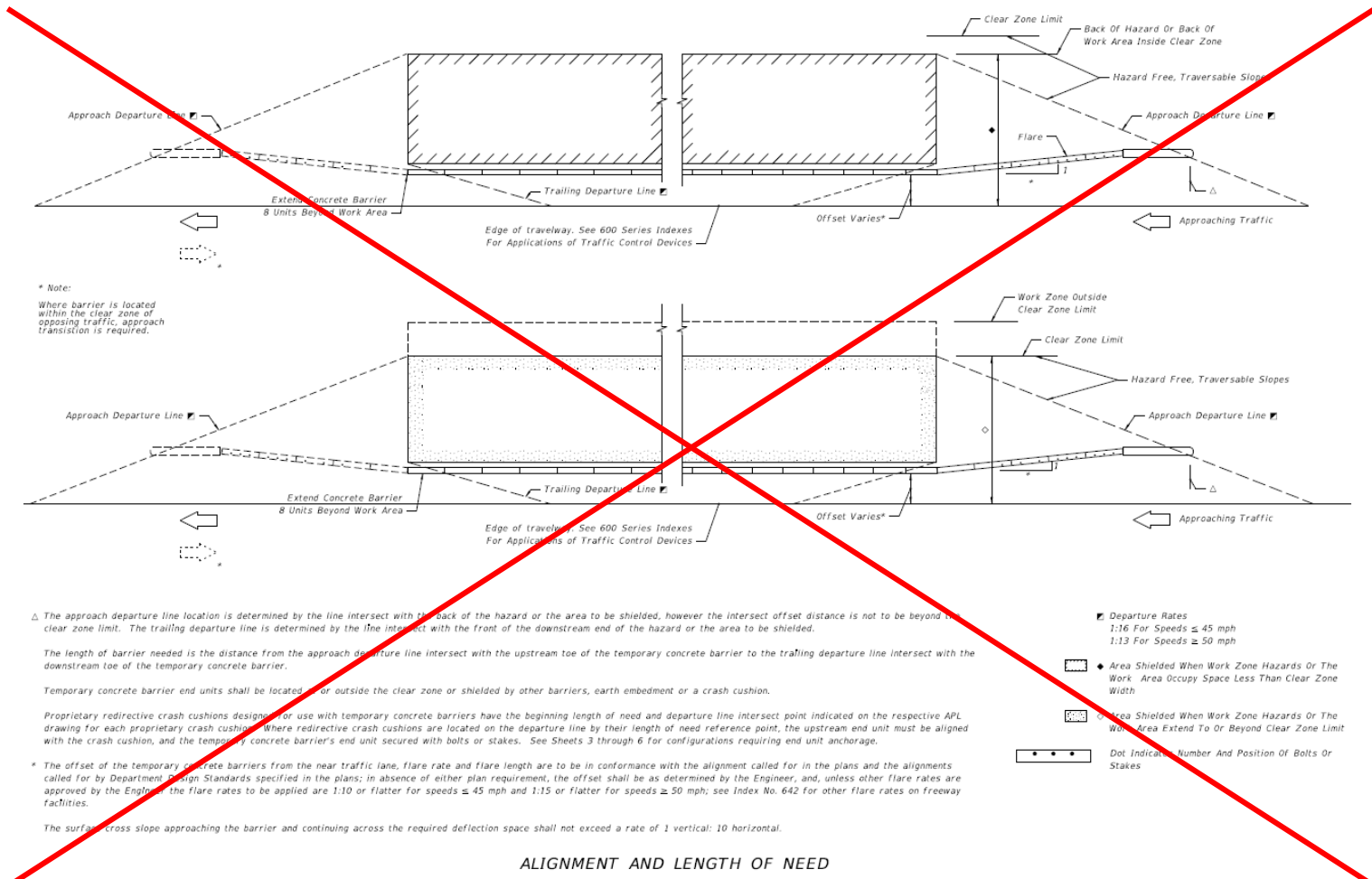
- “Deflection Space” is now “Setback Distance” and the previous table has been revised and simplified. Anchored “Setback Distance” was previously as low as 1’ and is now 2’.

<i>INSTALLATION DATA</i>			
<i>CONDITION</i>	<i>LATERAL OFFSET</i>	<i>SETBACK DISTANCE</i>	<i>PAVEMENT/ ASPHALT WIDTH</i>
<i>Anchored</i>	<i>2' Min.</i>	<i>2' Min.*</i>	<i>1' Min.</i>
<i>Free-standing</i>	<i>2' Min.</i>	<i>4' Min.</i>	<i>4' Min.</i>

** For Bridge Decks see Index 102-110 or APL.*

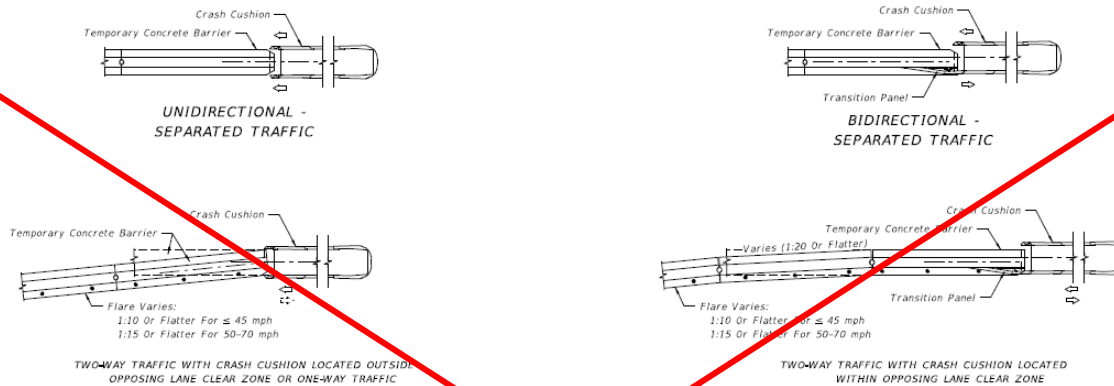
Index 102-100 (previously Index 415) “Temporary Barrier”

- Length of need has been removed from the index. See the Standard Plan Instructions for length of need calculations.



Index 102-100 (previously Index 415) “Temporary Barrier”

- Crash cushion details have been moved to Index 102-110. See APL drawings for crash cushion details related to proprietary barriers.



SHOULDER - RIGHT OR LEFT (RIGHT SIDE SHOWN)
END TREATMENT WHEN SHIELDED BY A CRASH CUSHION

NOTES FOR END SHIELDING

1. Redirective crash cushions are the principal (standard) device to be used for shielding approach ends of temporary concrete barriers. The contractor has the option to construct any of the redirective crash cushions listed on the Approved Products List at "102 Temporary Crash Cushion", subject to the uses and limitations described on their respective drawings. The last four Temporary Concrete Barrier units abutting crash cushions must be anchored to a paved surface in accordance with Design Standards Index 414.
2. Temporary redirective crash cushions shall be installed in accordance with the manufacturer's specifications and recommendations. Temporary crash cushions can be either new or functionally equivalent used devices. Performance of intended function is the only condition for acceptance, whether the crash cushion is new, used, refurbished, purchased, leased, rented, on loan, shared between projects, or made up of mixed new and used components.
3. Temporary Crash Cushions shall not be bolted down on bridge superstructures that contain post-tensioned tendons within the concrete deck (top flange of concrete box girders) or on bridge superstructures consisting of longitudinally prestressed, transversely post-tensioned, solid or voided concrete slab units. Gating crash cushions shall be used where bolting is not allowed.
4. Assemble and install Crash Cushions according to the limitations noted on the Approved Products List (APL) webpage, the manufacturer's specifications, and the applicable crash cushion drawings posted on the APL.
5. Optional temporary redirective crash cushions are to be paid for per locations under the contract unit price for Crash Cushion (Redirective Option) (Temporary), LO.
6. A yellow Type I Object Marker shall be centered 3' in front of the crash cushion nose. Mounting hardware shall be in conformance with Section 993 of the Standard Specifications for Road and Bridge Construction.

As an option, the contractor may install reflective sheeting on the nose of the crash cushion. The sheeting to be used must be some yellow, Type III or better and must be a product listed on the Department's Approved Products List (APL). The sheeting to be applied to the nose of the crash cushion shall be a minimum of 360 square inches with a minimum height of 15 inches.
7. Equipment, stockpile material, etc., shall not be placed behind the crash cushion.
8. When subjected to reverse direction hits, construct Transition Panels from Temporary Concrete Barrier to Crash Cushions; for additional details refer to the applicable crash cushion drawings on the APL.
9. Galvanize metallic components to meet the requirements for Steel Guardrail, Section 967 of the Standard Specifications for Road and Bridge Construction.

LEGEND

Dot Indicates Number And Position Of Bolts Or Stakes

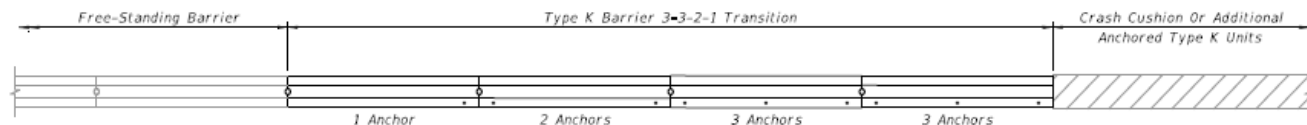
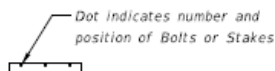


SHIELDING ENDS WITH REDIRECTIVE CRASH CUSHIONS (REDIRECTIVE OPTION)

Index 102-110 (previously Index 414) “Type K Temporary Concrete Barrier System”

- There are Index-wide revisions, but they are mostly minor and relate to the temporary barrier changes. Some information that was previously shown (e.g., setback distance) is now located solely in Index 102-100 “Temporary Barrier”.
- The fabrication details that were on sheets 1-3 of 15 are now shown on sheets 15-17 of 17.
- Significantly, added a “3-3-2-1 Anchorage Transition Detail” on sheet 1 of 17.

LEGEND:



3-3-2-1 ANCHORAGE TRANSITION DETAIL

Index 102-600 (previously Index 600) “General Information for Traffic Control Through Work Zones” Sheet 1 of 12

- Revised Preface to General Notes along with the information contained therein.

~~PRE GENERAL NOTES:~~

~~All projects and works on highways, roads and streets shall have a traffic control plan. All work shall be executed under the established plan and Department-approved procedures. This Index contains information specific to the Federal and State guidelines and standards for the preparation of traffic control plans and for the execution of traffic control in work zones, for construction and maintenance operations and utility work on highways, roads and streets on the State Highway System. Certain requirements in this Index are based on the high volume nature of State Highways. For highways, roads and streets off the State Highway System, the local agency (City/County) having jurisdiction may adopt requirements based on the minimum requirements provided in the MUTCD.~~

~~Indexes 102-601 through 102-670 are Department-specific typical applications of commonly encountered situations. Adjust device location or number thereof as recommended by the Worksite Traffic Supervisor and approved by the Engineer. Devices include, but are not limited to, flaggers, portable temporary signals, signs, pavement markings, and channelizing devices. Comply with MUTCD or applicable Department criteria for any changes and document the reason for the change.~~

~~Except for emergencies, any road closure on State Highway System shall comply with Section 335.15, F.S.~~

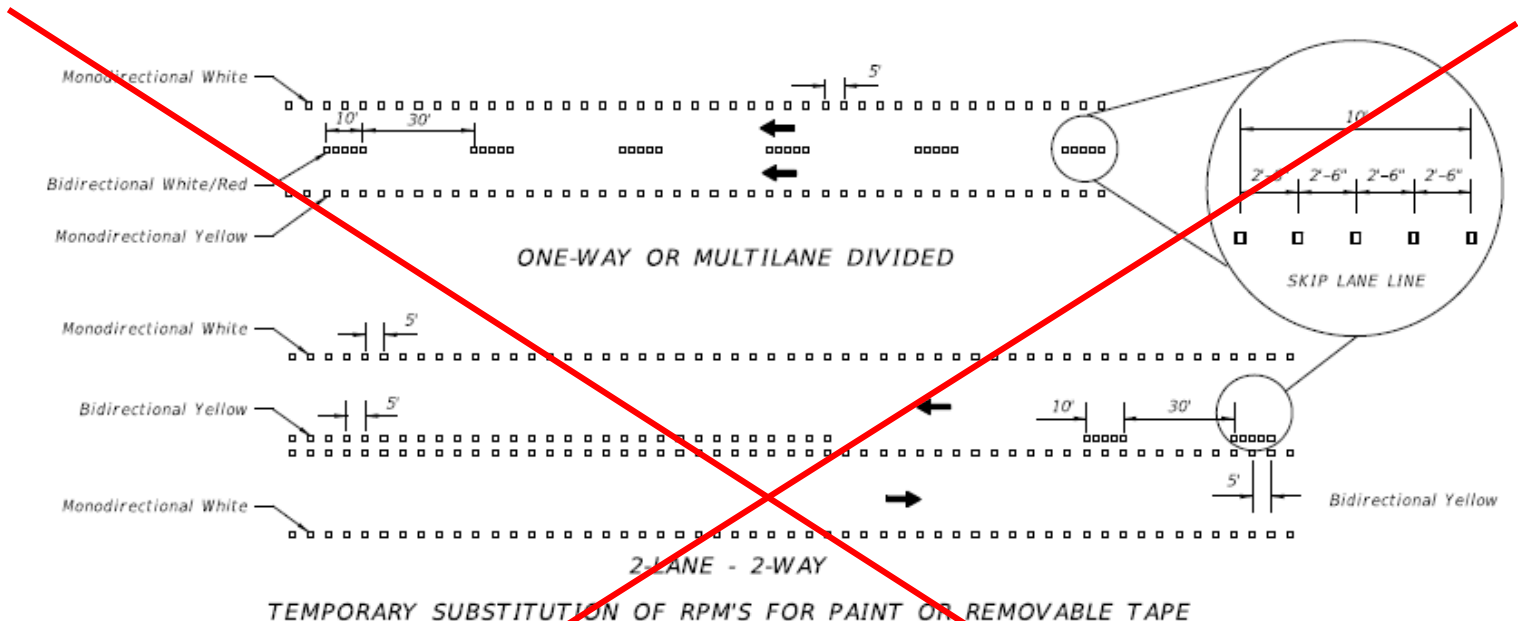
~~Except for emergencies, any road closure on State Highway System shall comply with Section 335.15, F.S.~~

~~MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES~~

~~The Florida Department of Transportation has adopted the "Manual On Uniform Traffic Control Devices For Streets And Highways" (MUTCD) and subsequent revisions and addendums, as published by the U.S. Department of Transportation, Federal Highway Administration, for mandatory use on the State Maintained Highway System whenever there exists the need for construction, maintenance operations or utility work.~~

Index 102-600 (previously Index 600) “General Information for Traffic Control Through Work Zones” Sheet 12 of 12

- Removed Temporary Substitution of RPM's for Paint or Removable Tape.



1. Paint or removable tape are the required work zone markings and shall be placed in accordance with the plans and specifications. If these work zone markings can not be placed due to weather restrictions identified in the appropriate specification, temporary substitution of RPM's for work zone markings will be allowed until the weather condition permits the placement of appropriate work zone marking. Temporary substitution of RPM's for work zone markings will be allowed for equipment malfunction, placement of the appropriate work zone marking shall be made within 3 days, or sooner if possible. When RPM's are used as a temporary substitution for work zone markings the following shall apply:
 - a. Lane widths identified in the plans must be maintained. Placement of RPM's should consider where work zone markings will be placed as soon as conditions allow. If the RPM's can not be placed so that the lane width is maintained after the placement of the work zone markings, the conflicting RPM's must be removed.
 - b. The color of the RPM body and the reflective face shall conform to the color of the marking for which they substitute.
 - c. In work zones, B RPM's must be used to form lane lines, edge lines and temporary gore areas as a temporary substitute for paint or removable tape at the spacing shown above.



Standard Plans Update Training

Index 102-606 (previously Index 606) “Two-Lane, Two-Way, Work Within the Travel Way – Signal Control” Sheet 1 of 4

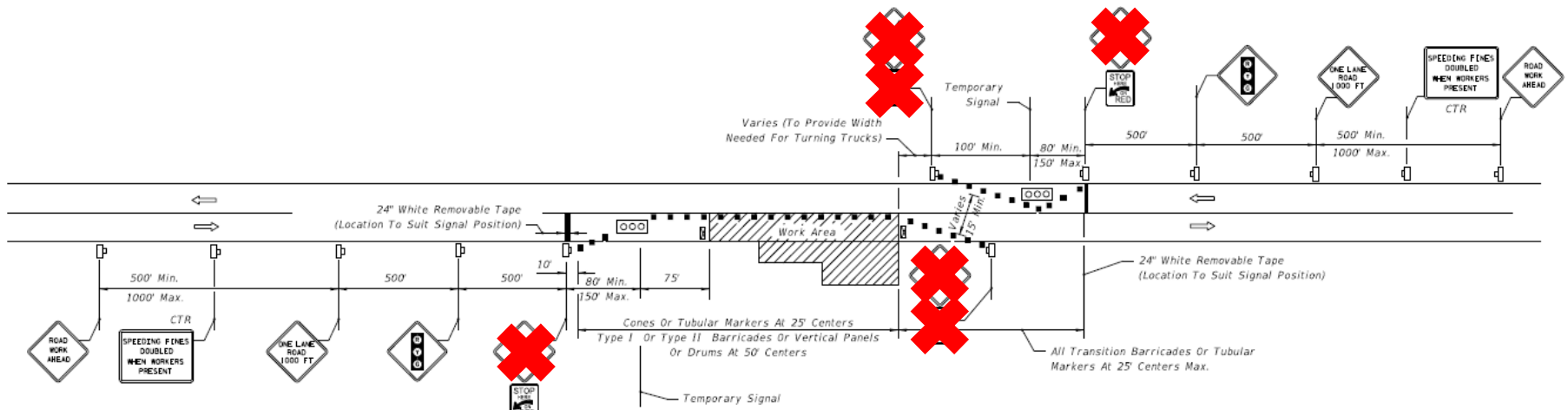
- Revised General Notes. Added another option for a 0.50 mile closure.

GENERAL NOTES

- ~~1. Work operations shall be confined to the traffic lanes except for haul road crossings.~~
~~Temporary Signals shall be used in accordance with the following:~~
Temporary Signals can either be portable signals or span wire signals and shall include two signal faces for each approach.
- 2. The installation and timing of signals shall be approved by the District Traffic Operations Engineer prior to signals being placed in operation.*
Where sight distance to the signal is limited, the temporary traffic signals may be relocated at the discretion of the Engineer. Timing adjustments must be made by the Worksite Traffic Supervisor based on changing field conditions. Changes to timing (either reoccurring or lasting more than 24 hours) must be approved by the District Traffic Operation Engineer.
Whether the signals are in automatic mode or being controlled manually, in no case will the distance between the portable signals (receiver/controllers) exceed the maximum distance at which the portable signals can be positively and safely operated in accordance with manufacturer's recommendations. When distances between signals exceed 0.25 miles, a combination of a pilot vehicle with manually controlled temporary traffic signals are required.
- ~~3. Additional signals or flaggers may be required to assure safe movements between traffic and operating equipment as determined by the Engineer.~~
~~4. Additional warning signs may be required in advance of the ROAD WORK AHEAD signs as determined by the Engineer. The distance between successive signs shall be 300 feet.~~
- 5. The SIGNAL AHEAD legend sign may be substituted for the symbol sign.*
- 6. SIGNAL AHEAD and EQUIPMENT CROSSING AHEAD signs are to be removed or fully covered when no work is being performed and the highway is open to two-way traffic. Type III Barricades shall be in place to block haul road access when the haul road is not in operation and a flagger/signal operator is not on duty, except when the haul road is an existing properly marked road.*
- ~~7. When a side road intersects the highway within the 200' construction zone, the contractor shall provide appropriate T-29 signs.~~
~~For general T-29 requirements and additional information, refer to Index No. 604.~~
- 9. Temporary traffic signals are to be used only in work zones with workers present, where the contractor can monitor signal operation and maintain traffic with flaggers in the event of a power failure.*
- 10. Use Temporary Raised Rumble Strips in accordance with Index 603.*

Index 102-606 (previously Index 606) “Two-Lane, Two-Way, Work Within the Travel Way – Signal Control”

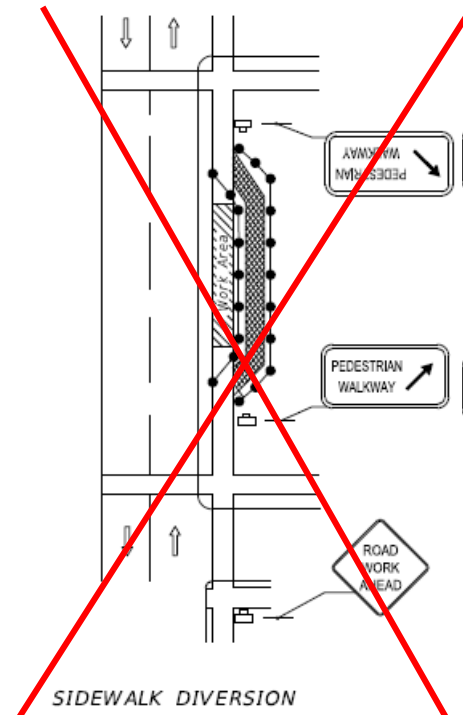
- Removed “Reverse Curve” and “Keep Right” signs from all sheets.



Index 102-660 (previously Index 660) “Pedestrian Control for Closure of Sidewalks”

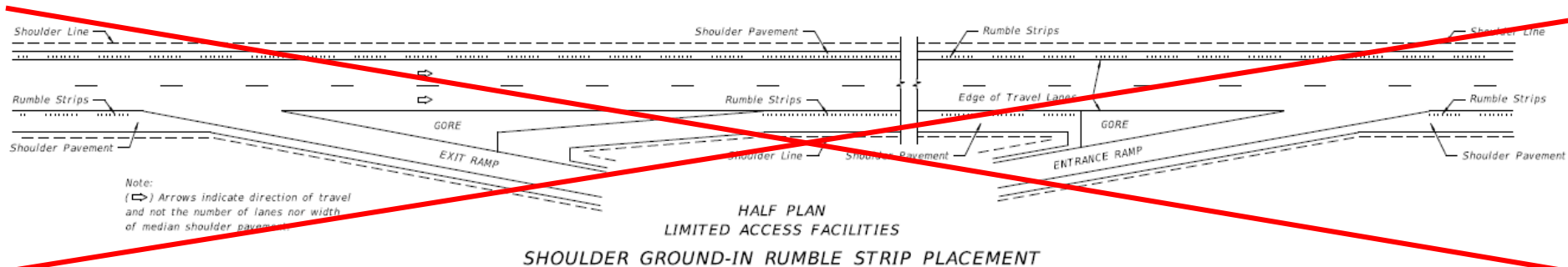
- Revised “General Notes”. The most significant change being shown below.
- Revised “Sidewalk Diversion” detail to show temporary sidewalk instead of a diversion into the traveled way. A diversion into the traveled way is still allowed, but the feasibility is limited.

~~6. When construction activities involve sidewalks on both sides of the street, stage the construction so that one sidewalk is in service at all times. If this is not feasible and both sidewalks must be closed, as determined by the Engineer, provide a detour to guide pedestrians around the construction zone.~~



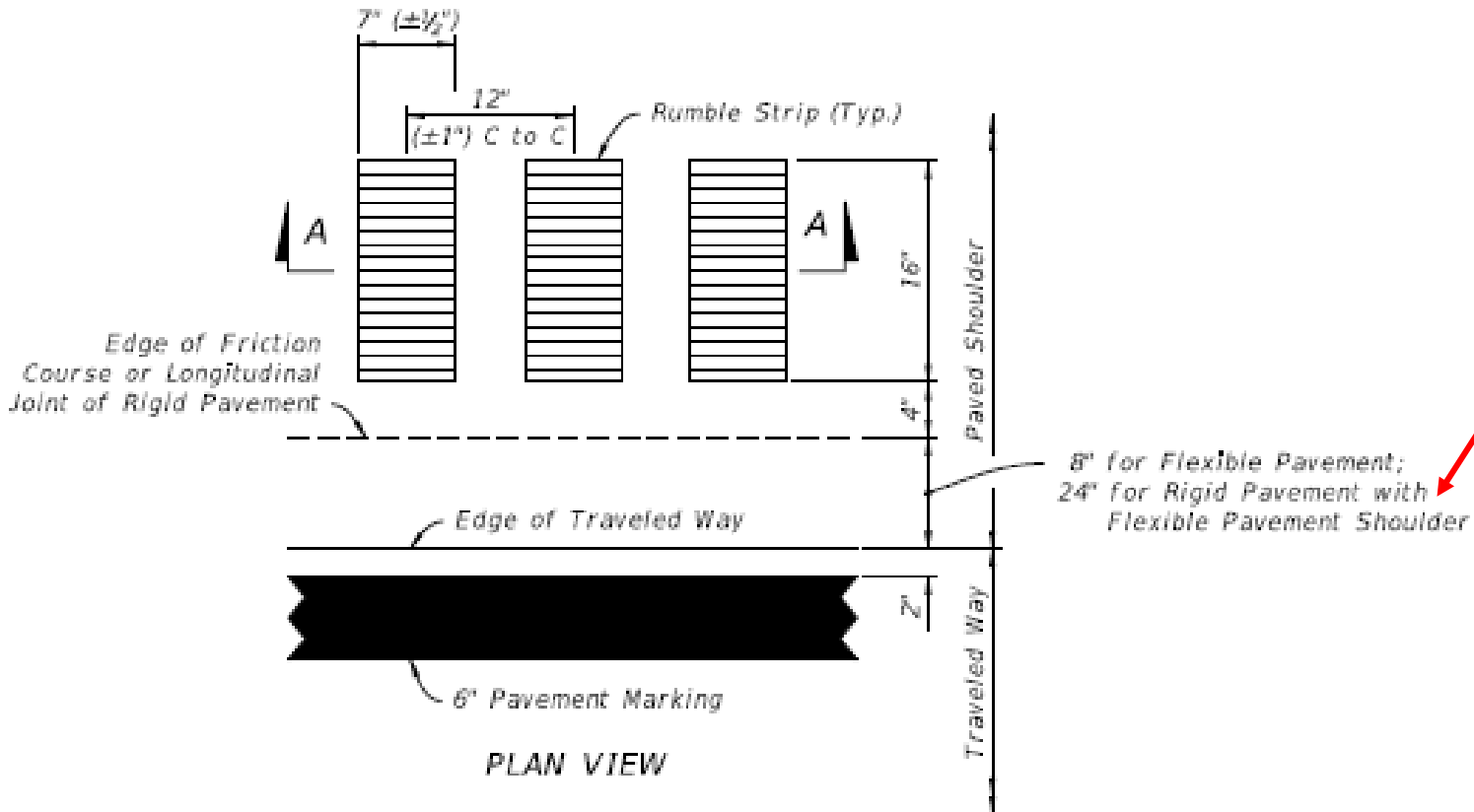
Index 546-010 (previously Index 518) “Ground-In Rumble Strips”

- As part of the effort to remove design information from the Standard Plans, the “Shoulder Ground-In Rumble Strip Placement” detail has been removed and placed into the FDM 211.4.4. For the time being, the placement details are also described in the “General Notes”.



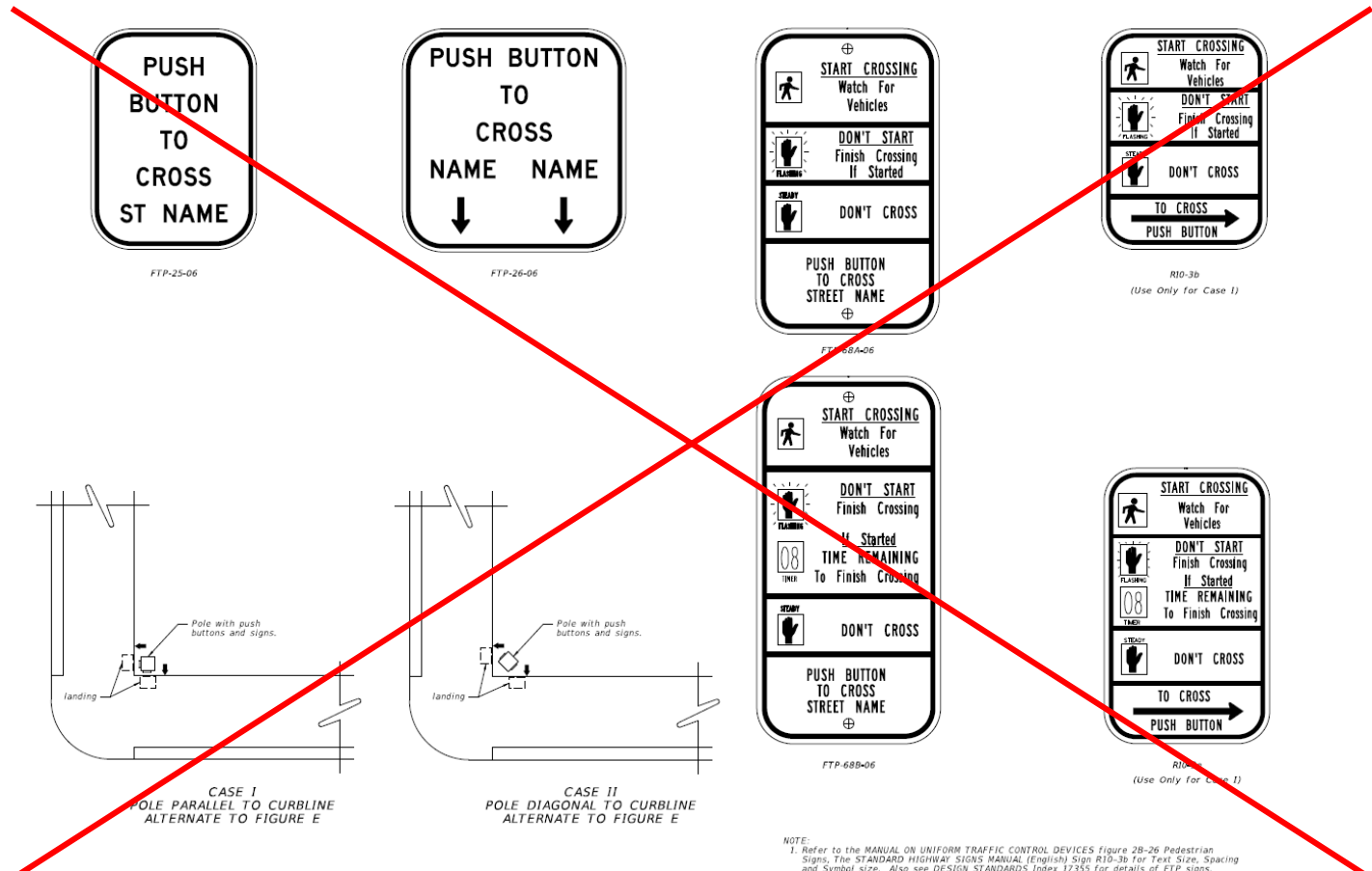
Index 546-010 (previously Index 518) “Ground-In Rumble Strips”

- The concrete pavement details on the old sheet 2 of 2 have been removed. The “Rigid Pavement with Flexible Pavement Shoulder” detail has been incorporated into “Detail ‘A’” of the Standard Plan. The Profiled Thermoplastic criteria has been moved to FDM 211.4.4.2.



Index 665-001 (previously Index 17784) “Pedestrian Detector Assembly Installation Details”

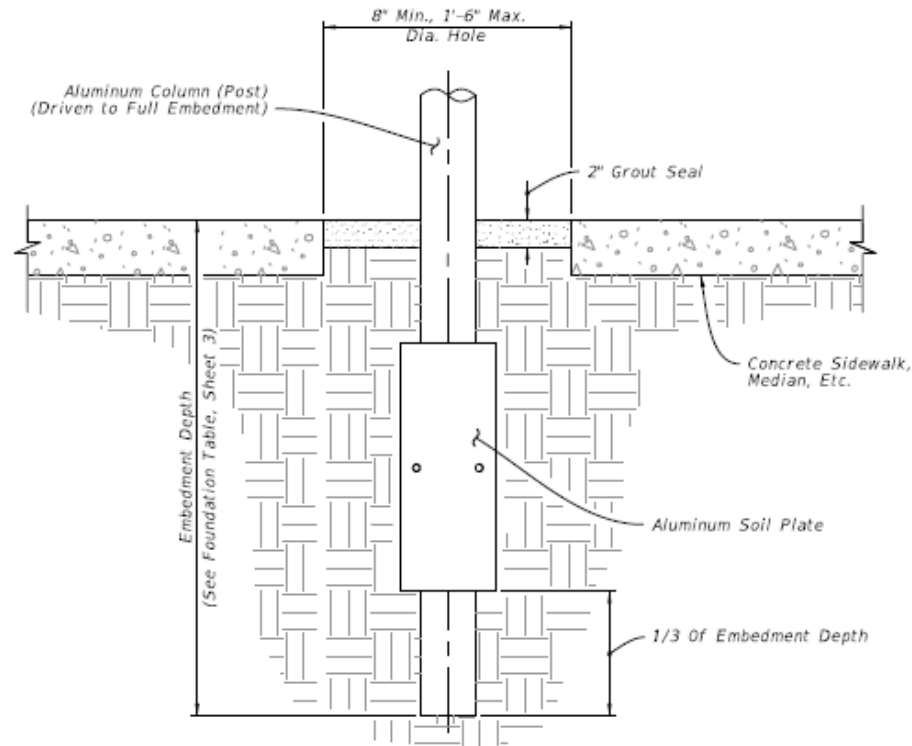
- The entire Index has been reconfigured, but, in general, the content is the same.
- Removed sheet with sign details and pushbutton location details (old sheet 2 of 2).



NOTE:
 1. Refer to the MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES Figure 2B-26 Pedestrian Signs, The STANDARD HIGHWAY SIGNS MANUAL (English) Sign R10-3b for Text Size, Spacing and Symbol size. Also see DESIGN STANDARDS Index 17355 for details of FTP signs.

Index 700-010 (previously Index 11860) “Single Column Ground Signs” Sheet 5 of 9

- Removed “Concrete/Stub Detail”.
- Revised “Driven Post Detail”.



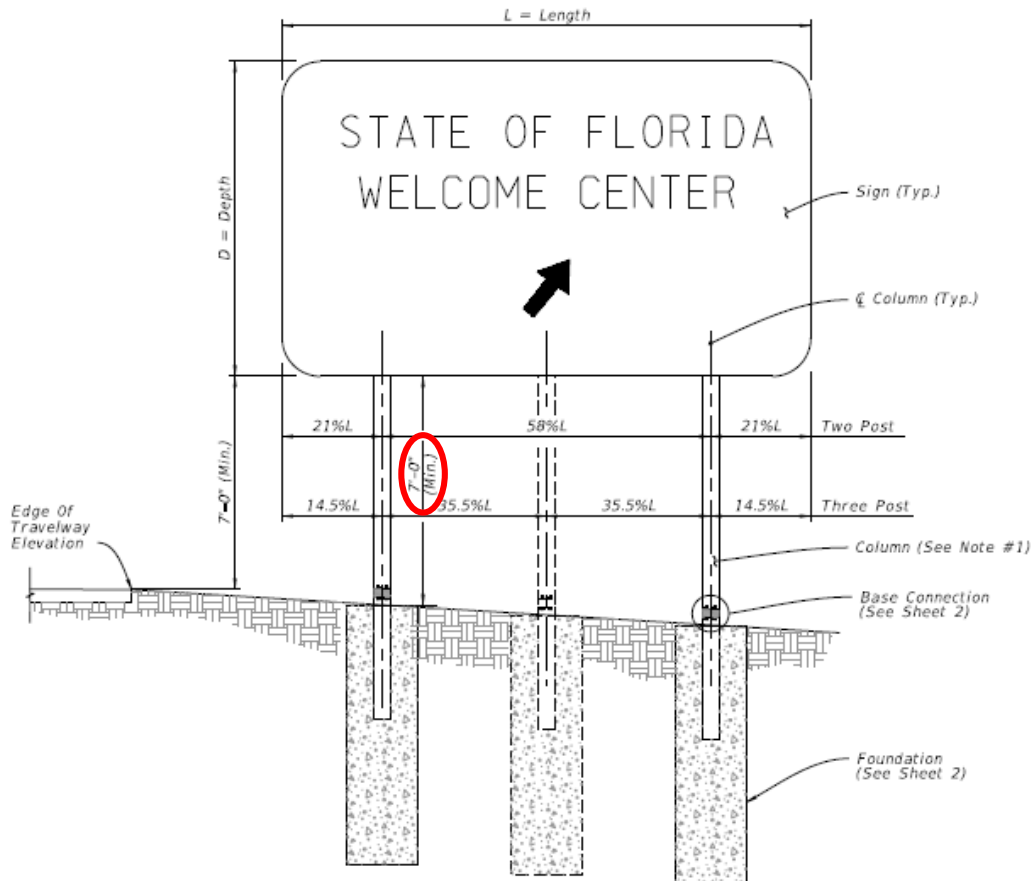
ELEVATION

DRIVEN POST DETAIL

(Frangible Post In Crossovers, Medians & Sidewalks)

Index 700-020 (previously Index 11200) “Multi-Column Ground Sign” Sheet 1 of 3

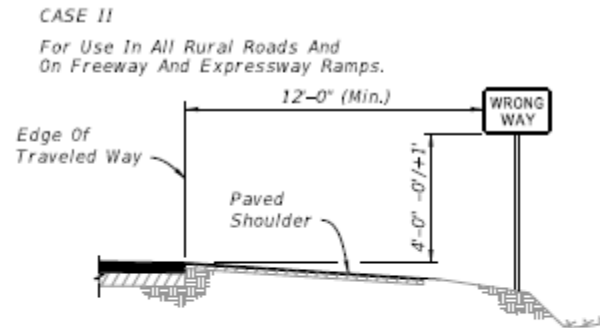
- Deleted 8' (Max.) requirement.
- Added 7' (Min.) requirement for length of post from base connection to bottom of sign panel.



Index 700-101 (previously Index 17302)

“Typical Sections for Placement of Single & Multi-Column Signs”

- There are Index-wide changes for consistency, but most are relatively minor.
- Removed wrong way sign criteria out of the “Case II” detail and created a “Case X” detail specifically for wrong way signs.

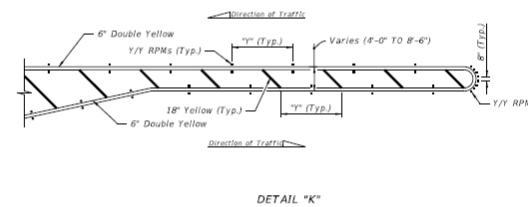
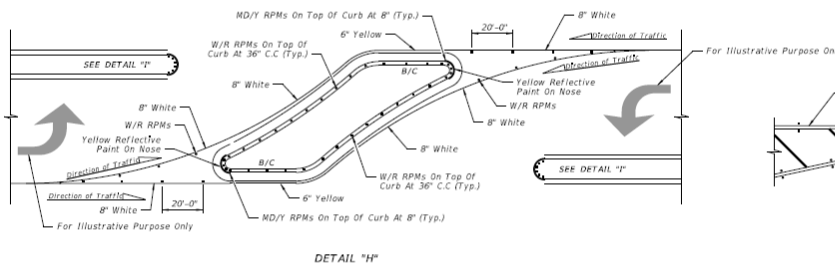
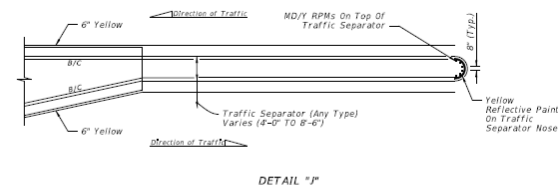
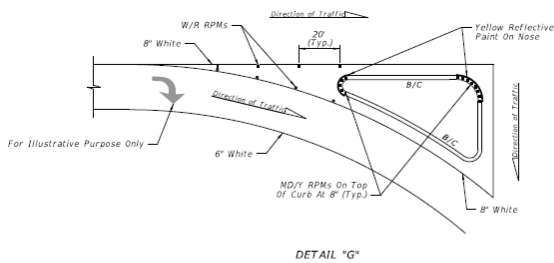


14' Horizontal Clearance Standard On All Freeway And Expressway Ramps.

~~* 4' For Wrong Way Signs
On Interstate Exit Ramps~~

Index 706-001 (previously Index 17352) “Typical Placement of Raised Pavement Markers”

- There are Index-wide changes, but most are relatively minor (e.g., “Reflective” to “Raised”, note changes, etc.).
- Two new sheets have optional RPM details for median openings, islands, and traffic separators that, if used, should be called for in the Plans.



RPM PLACEMENT AT ISLANDS
 (When called for in the Plans)

RPM PLACEMENT AT TRAFFIC SEPARATORS
 (When called for in the Plans)

POSTED SPEED LIMIT MPH	"Y" FEET
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

NOTES:

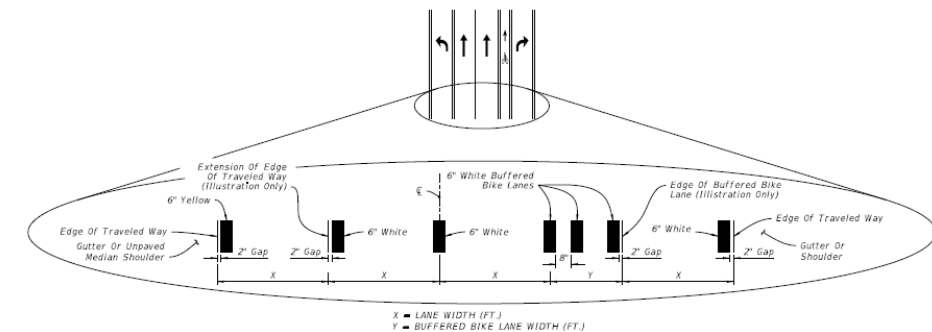
- For Type "E" Curb install RPMs along the pavement edge marking using the same spacing shown.
- Orient traffic faces of RPMs in median radii to be parallel to direction of travel lanes.

LEGEND:

- B/C = BACK OF CURB
- EOP = EDGE OF PAVEMENT
- RPM = RAISED PAVEMENT MARKER
- W/R = WHITE/RED RPM
- Y/Y = YELLOW/YELLOW RPM
- Y/R = YELLOW/RED RPM
- MD/Y = MONO-DIRECTIONAL YELLOW RPM

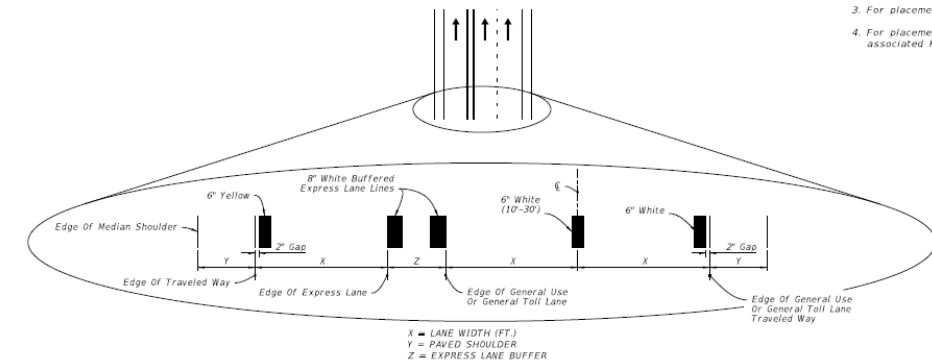
Index 711-001 (previously Index 17346) "Pavement Markings"

- There are Index-wide changes for consistency, but most are relatively minor.
- Two new sheets have been added to clearly show longitudinal markings.



INTERSECTION APPROACH STRIPING WITH TURN LANES AND BUFFERED BIKE LANE KEY HOLE

- NOTES:**
1. Lane widths (X) may not be same for each lane in the section.
 3. For placement of RPMS, see Index 706-001.
 4. For placement of Express Lane markers and associated RPMS, see the Plans.

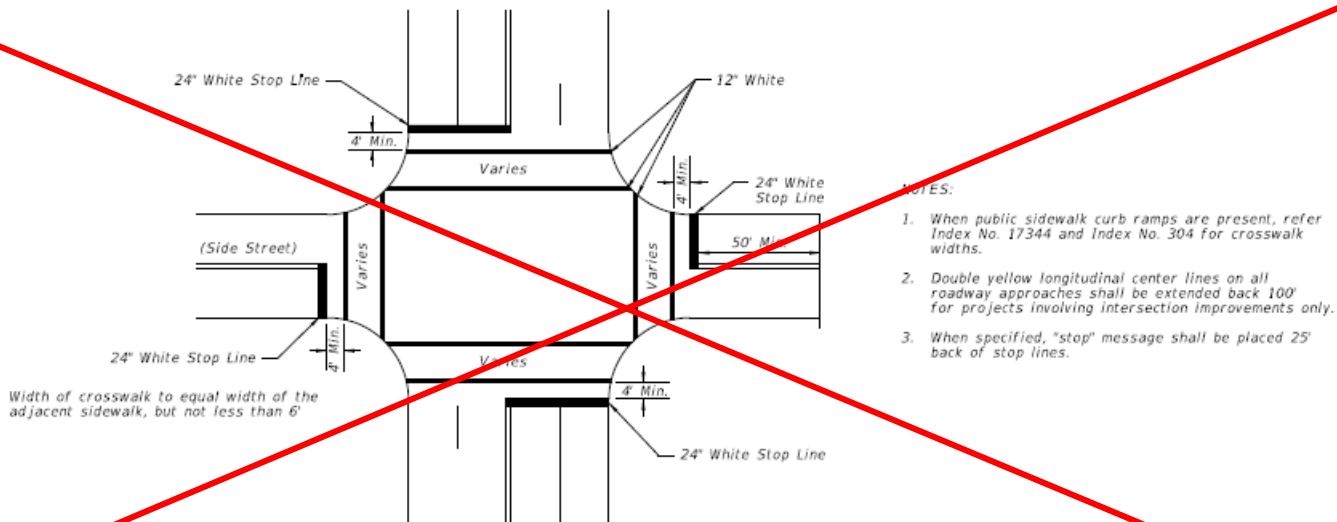


BUFFERED EXPRESS LANE STRIPING

Index 711-001 (previously Index 17346) “Pavement Markings”

➤ Removed the following details:

- “Typical Crosswalk Markings for Curb Ramps” on sheet 6 of 17 (old)
- “Restricted Left Turn Marking” on sheet 7 of 17 (old)
- “Typical Intersection 2 Thru Lanes Plus Left Turn Lane, with Crosswalk” on sheet 7 of 17 (old)
- “Stop Bars, Crosswalks and Double Center Line Details” on sheet 7 of 17 (old)

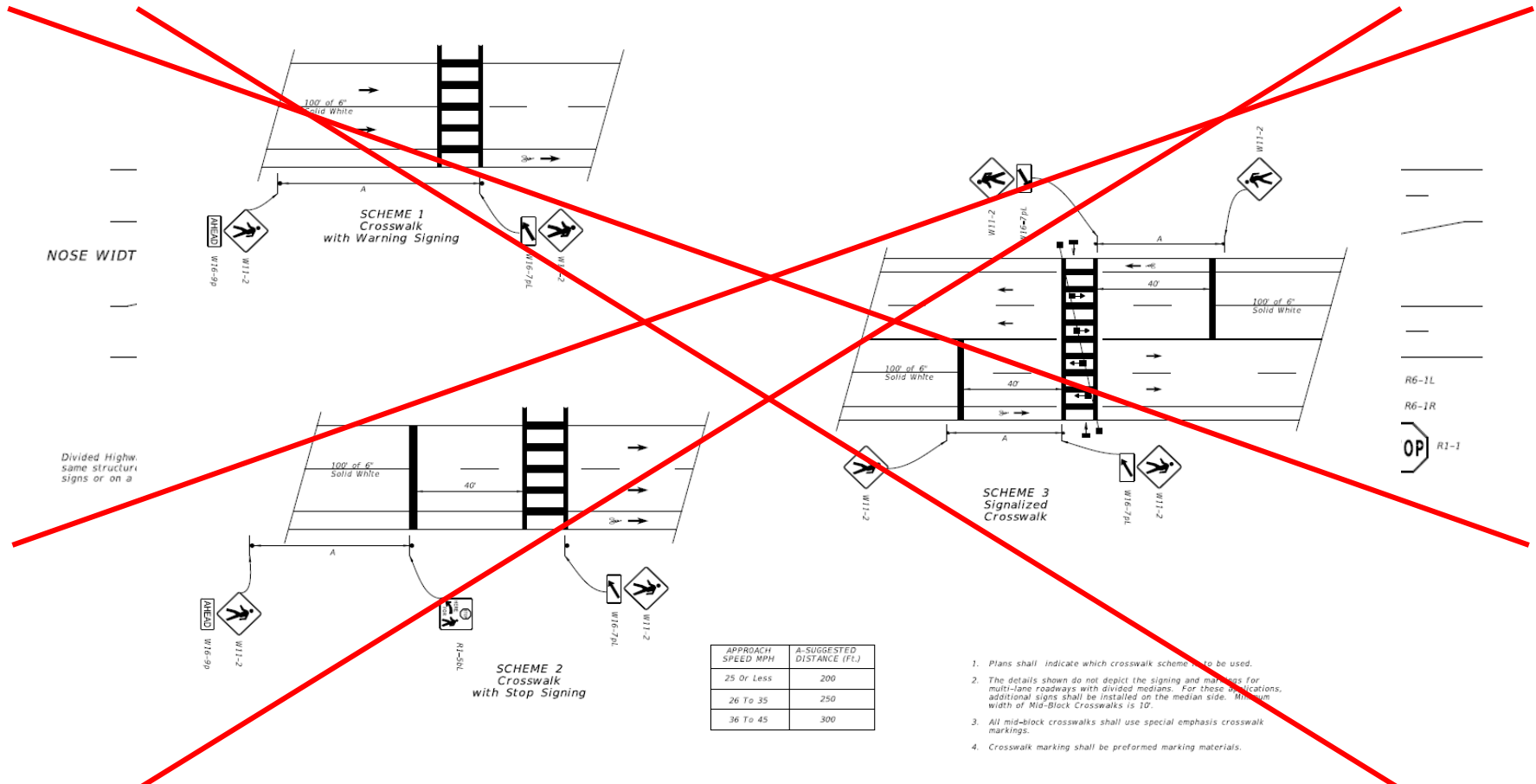


STOP BARS, CROSSWALKS AND DOUBLE CENTER LINE DETAILS

TYPICAL INTERSECTION 2 THRU LANES PLUS LEFT TURN LANE, WITH CROSSWALK

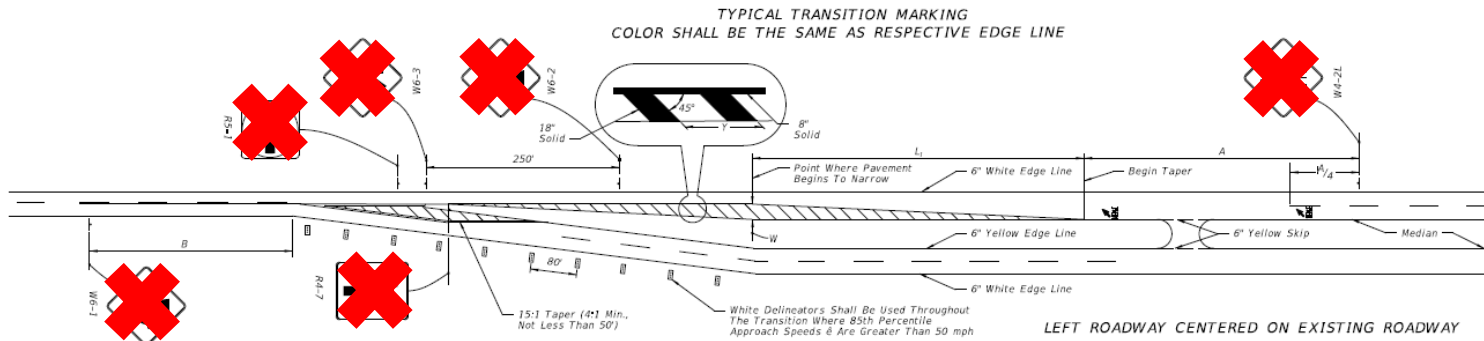
Index 711-001 (previously Index 17346) “Pavement Markings”

- Removed the “One-Way Signs on Divided Highway Intersections” detail on sheet 8 of 17 (old) placed it in FDM 230 as an exhibit.
- Removed the sheet with Midblock Crossing details (old sheet 13 of 17) and placed it in FDM 230 as an exhibit.



Index 711-001 (previously Index 17346) “Pavement Markings”

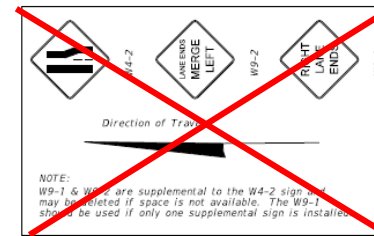
- Removed the signing details from “Schemes for Transition – 2 Lane / 4 Lane Roadway” on sheet 9 of 17 (old) and placed them in FDM 230 as an exhibit.



**W +S	TRANSITION DISTANCE L ₁ (FEET)						
MPH	8	9	10	11	12	13	14
30	120	135	150	165	180	195	210
35	165	185	205	225	245	265	285
40	215	240	270	295	320	350	375
45	360	405	450	495	540	585	630
50	400	450	500	550	600	650	700
55	440	495	550	605	660	715	770
60	480	540	600	660	720	780	840
65	520	585	650	715	780	845	910

SPEED* MPH	"A" (FT.)	"B" (FT.)
60	---	640
55	950	595
50	850	550
45	750	500
40	650	455
30	450	365

POSTED (DAY) SPEED LIMIT MPH	W ₁ (FT.)
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40



L₁ = WS (45 MPH or Greater)

L₁ = WS² (≥40 MPH)

*Design Speed

**Lateral offset

White Delineators Shall Be Used Throughout The Transition Where 85th Percentile Approach Speeds* Are Greater Than 50 mph.

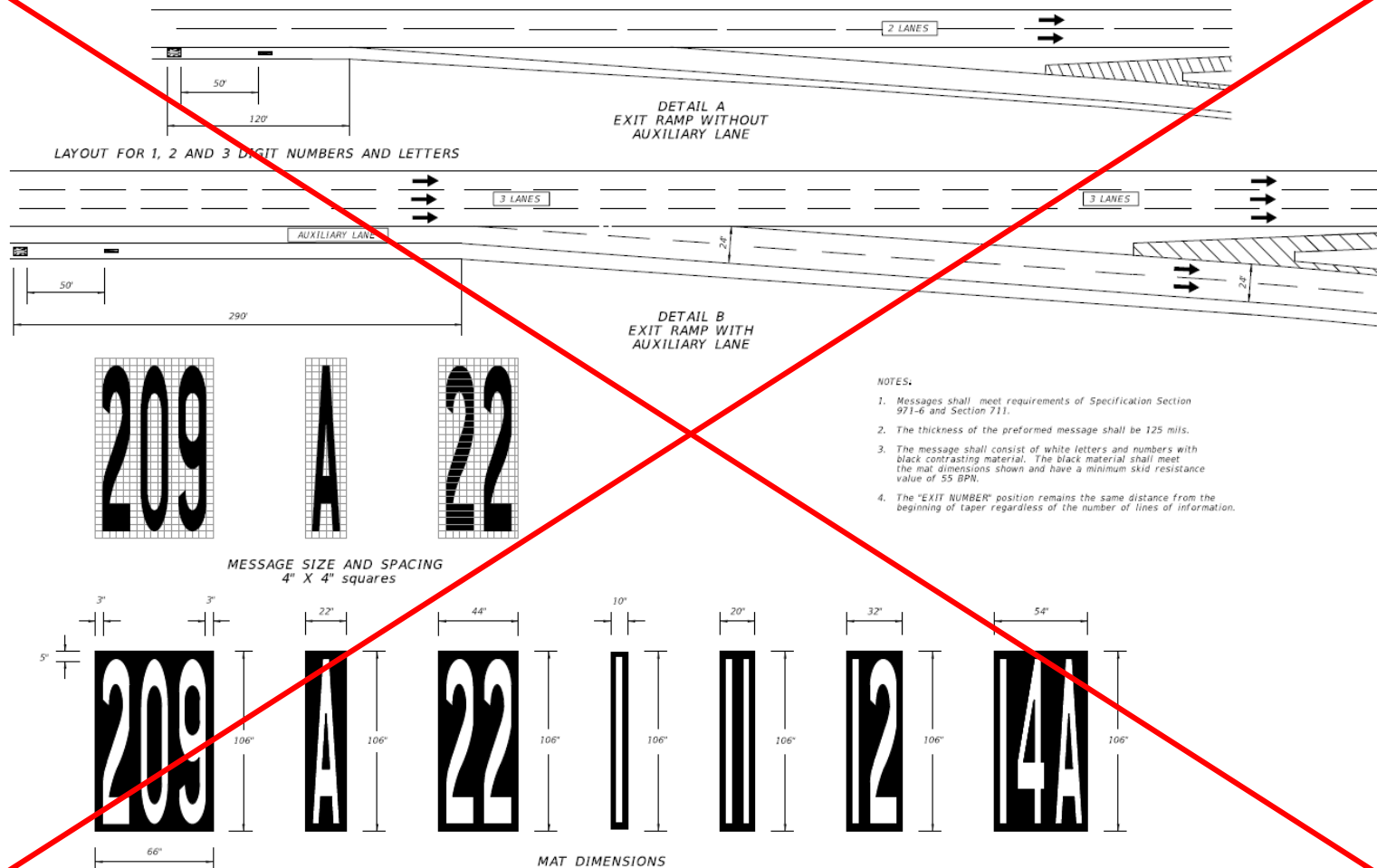
W₁ - 9M

W₁ - 9M

SCHEMES FOR TRANSITION - 2 LANE / 4 LANE ROADWAY

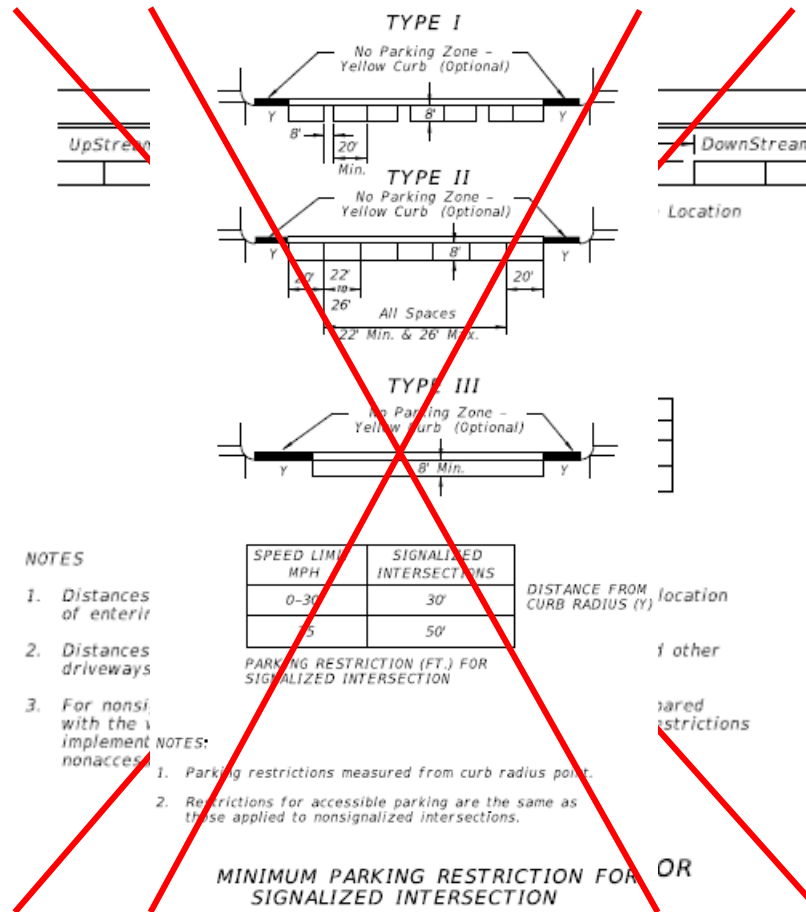
Index 711-001 (previously Index 17346) "Pavement Markings"

- Removed sheet with exit number details (old sheet 10 of 17) and placed it in Index 711-003.



Index 711-001 (previously Index 17346) “Pavement Markings”

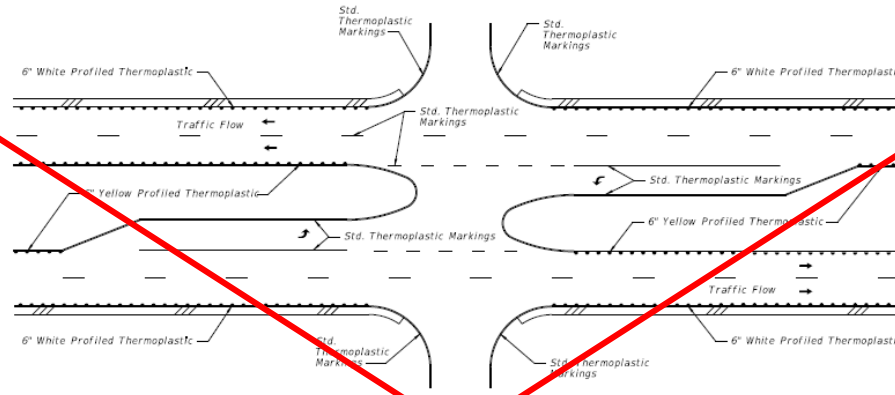
- Removed the following details from sheet 15 of 17 (old):
 - “Minimum Parking Restriction for Nonsignalized Intersections”
 - “Minimum Parking Restriction for Signalized Intersection”
- See FDM 212.11.5 for on-street parking at intersections.



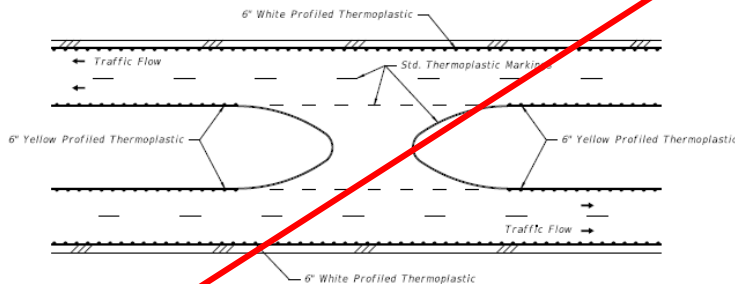
Index 711-001 (previously Index 17346) "Pavement Markings"

- Removed sheets with Profiled Thermoplastic details (old sheets 16-17 of 17). See FDM Figure 210.4.4 for the placement of audible and vibratory treatment.

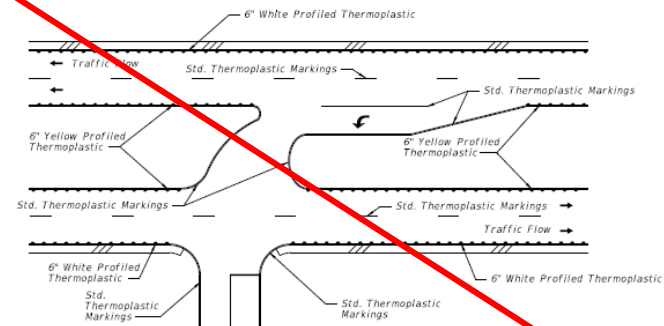
REFERENCE:
See Profiled Thermoplastic Markings General Notes on Sheet 13.



TYPICAL RURAL INTERSECTION



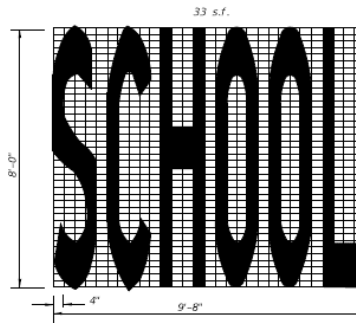
TYPICAL RURAL MEDIAN OPENING



TYPICAL RURAL DIRECTIONAL INTERSECTION

Index 711-001 (previously Index 17346) "Pavement Markings"

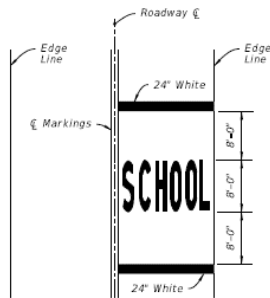
- Added sheet with "Markings for School Zones" details (new sheet 14 of 14).



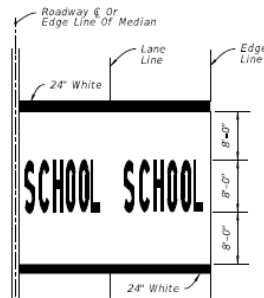
NOTES:

1. All grids are 4" x 4".
2. Pavement Marking Should Not Extend Into Opposing Lane.
3. Center School Pavement Marking in lane.

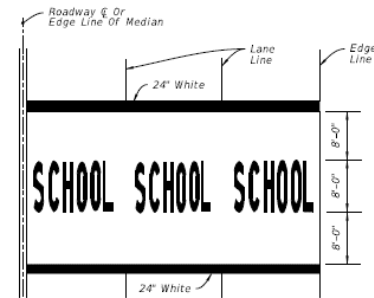
SCHOOL PAVEMENT MARKING



SINGLE-LANE APPROACH



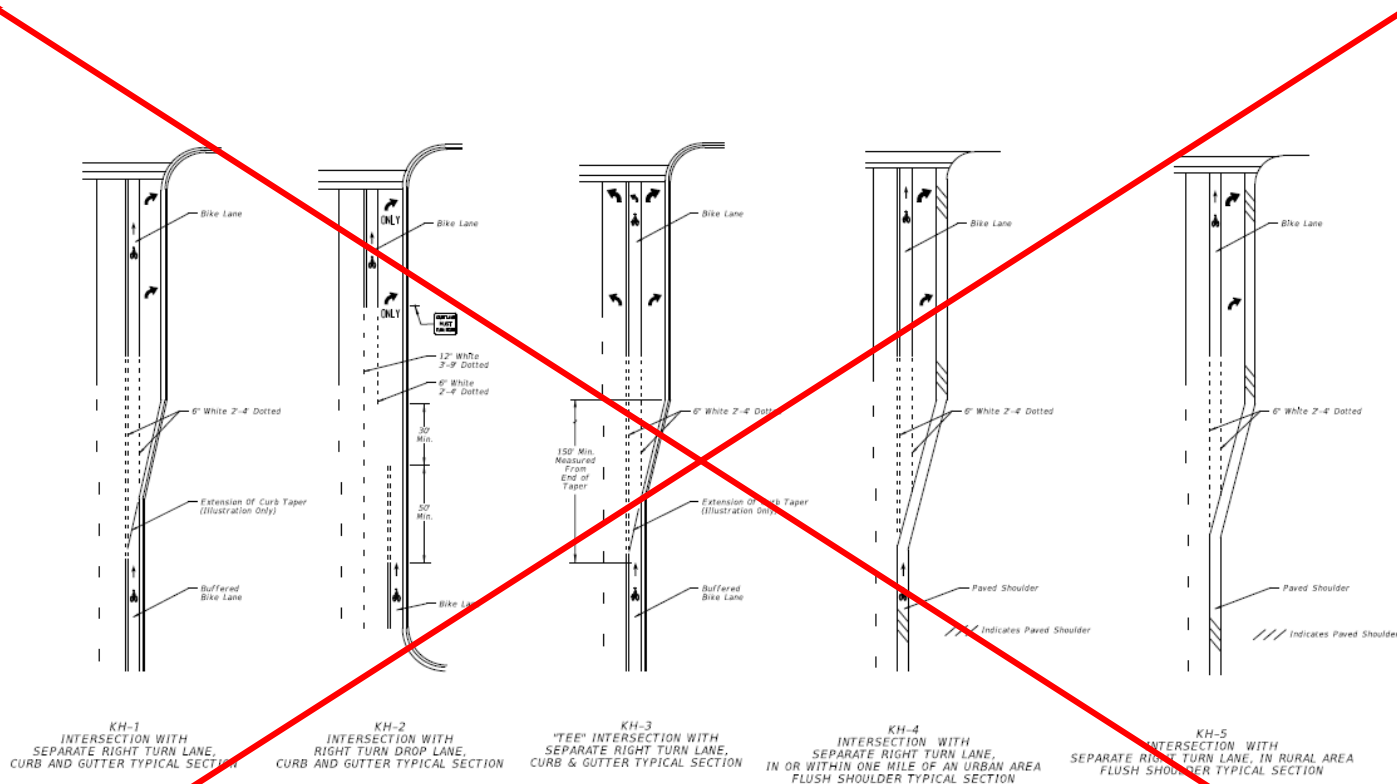
TWO-LANE APPROACH



MULTI-LANE APPROACH
(Three or More)

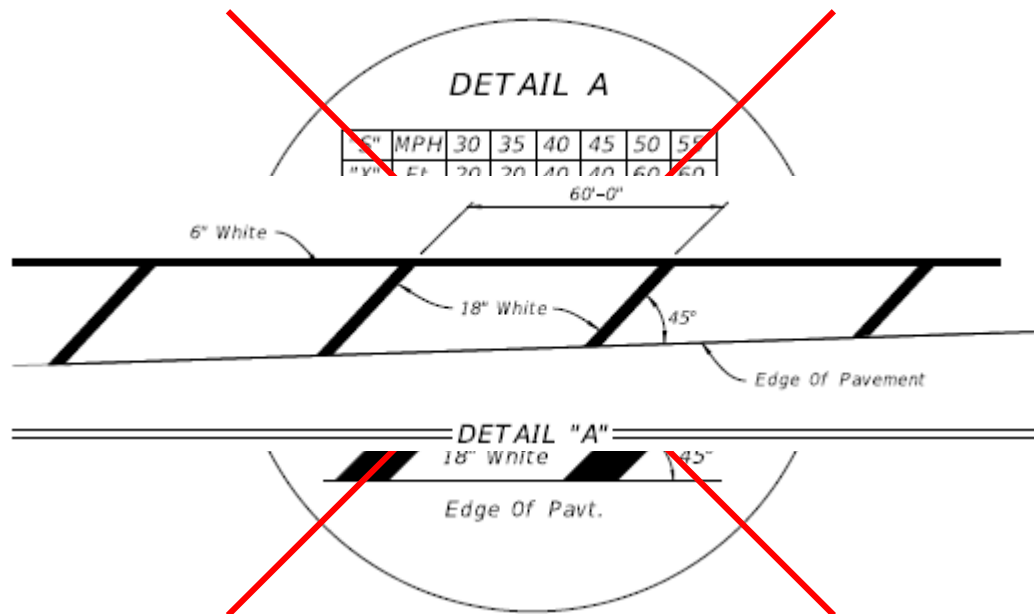
Index 711-002 (previously Index 17347) “Bicycle Markings”

- Removed sheet with “Shared Lane Markings” details (previously sheet 2 of 5). See FDM 223.3 for guidance on Shared Lane Markings.
- Removed sheets with bike lane typical layouts (previously sheets 4-5 of 5). See FDM 223 exhibits for updated bike lane typical layouts.



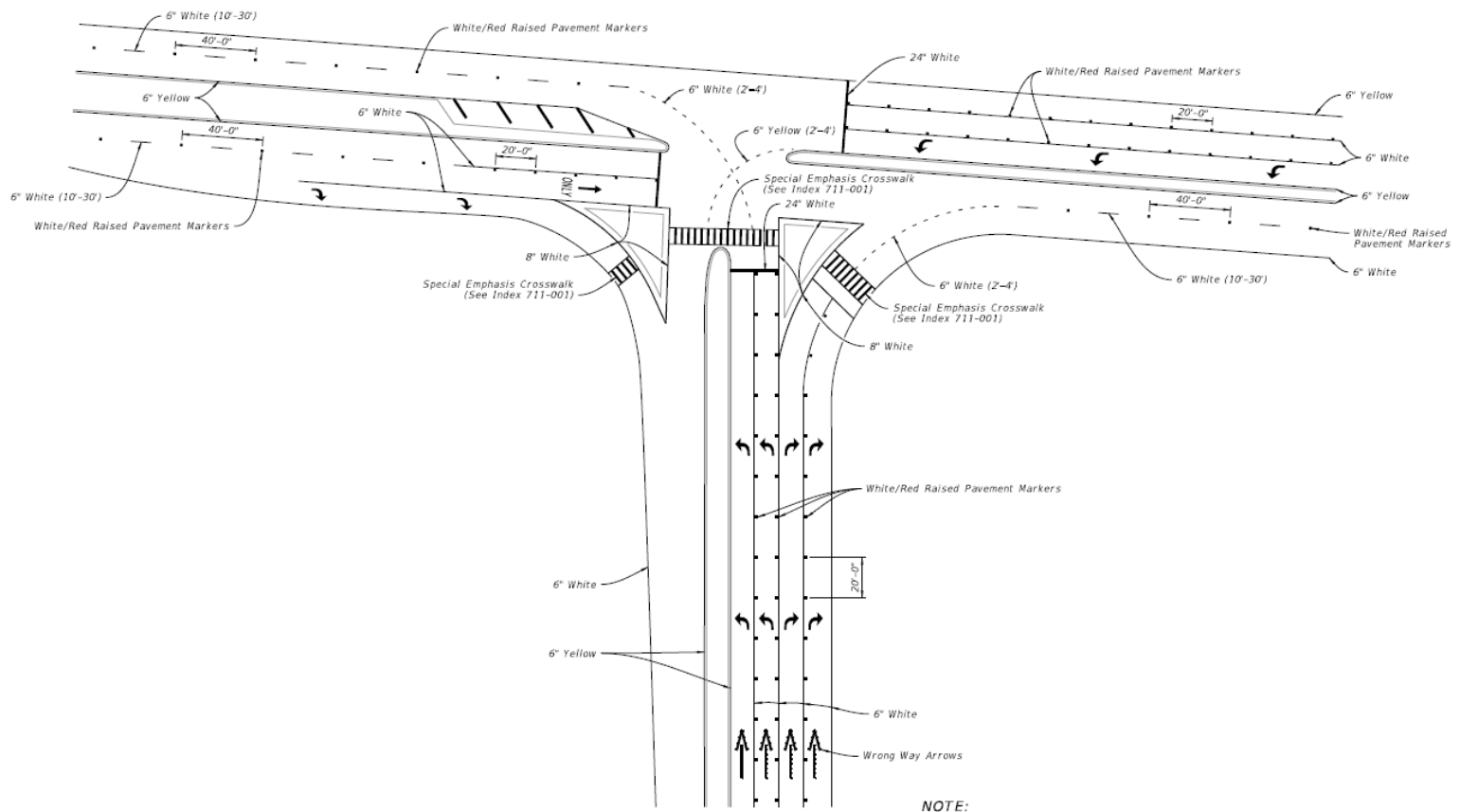
Index 711-003 (previously Index 17345) "Interchange Markings"

- There are Index-wide changes for consistency, but most are relatively minor.
- Revised the chevron spacing chart on sheet 1 of 1. All chevron spacing is now 60'.



Index 711-003 (previously Index 17345) “Interchange Markings”

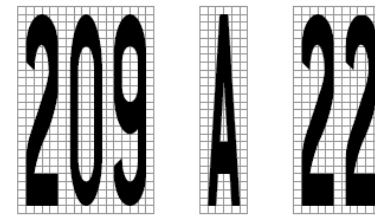
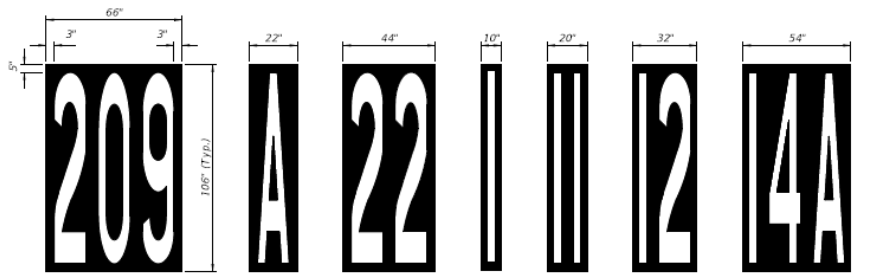
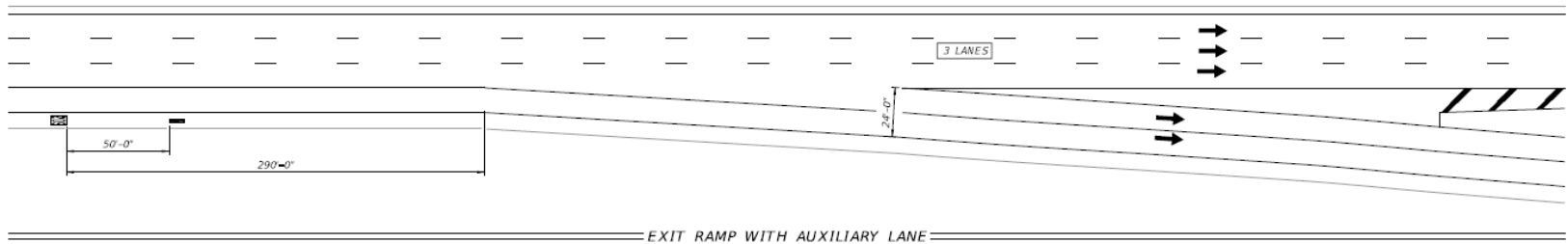
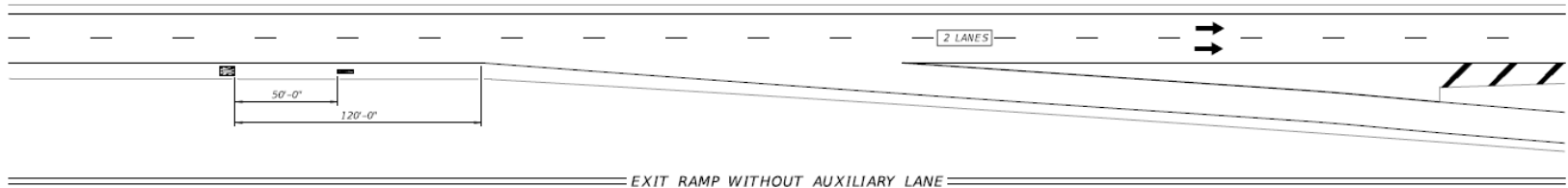
- Added new sheet with a interchange intersection (sheet 6 of 7).



NOTE:
Do not place wrong way arrows in between consecutive directional arrows.

Index 711-003 (previously Index 17345) “Interchange Markings”

- Added new sheet with exit number details (sheet 7 of 7).



NOTES:

1. This Index shows layouts for 1, 2, and 3 digit numbers and letters.
2. The message consist of white letters and numbers with black contrasting material.
3. The "EXIT NUMBER" position remains the same distance from the beginning of taper regardless of the number of lines of information.
4. All Grids are 4" x4".

Questions



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